National Aeronautics and
Space Administration

Headquarters
Washington, DC 20546-0001

July 14, 2015

TO: Distribution

FROM: Earth Science Division, Airborne Science Program Director

SUBJECT: FY 2016 Airborne Science Flight Program

The Airborne Science Program (ASP) under the Earth Science Division (ESD) of the Science Mission Directorate (SMD) announces the annual call for Fiscal Year 2016 Flight Requests. This call applies to Earth Science activities anticipated to occur between October 2015 and September 2016 that will utilize ASP core aircraft, facility instruments, ASP science support assets or any ESD funded activities/missions using aircraft (see appendix A for definitions and SOFRS requirement decision tree). Consult this document for updated summary information concerning instrumentation, aircraft/platform flight hour costs, Points of Contact (POC) and general Flight Request information.

Detailed and continually updated aircraft and instrument information can be found on the Airborne Science Program website (https://airbornescience.nasa.gov). This site is a centralized portal for all program components, including the Science Operations Flight Request System (SOFRS), platforms, instrument capabilities, schedules, and POC information. SOFRS can be accessed directly at https://airbornescience.nasa.gov/sofrs/. In addition, investigators in the pre-proposal planning stage may contact Randy Albertson (661-276-7540) or Matt Fladeland (650-604-3325) for platform selection, integration, feasibility study, or early engineering support.

PLEASE NOTE: All missions utilizing NASA instruments, personnel, aircraft or funds must be in compliance with the NASA Aircraft Operations Management Manual (NPR 7900.3C).

User Fees

All airborne assets (aircraft and instruments) are subject to user fees. These fees reflect the usage cost and are assessed by the organization operating the asset. This is true for both NASA and non-NASA assets. A Flight Request (FR) is required for scheduling usage of an ASP core aircraft, facility instrument, and/or ASP science support asset through SOFRS. Flight Requests should be associated with a NASA program, grant, proposal, or, if funded from a non-NASA source, deemed to be directly related to a NASA area of interest. If no NASA investigation is associated with the request, it will be handled as a Reimbursable Mission and may be required to include justification for use of NASA facilities and possibly subject to additional fees.

For non-NASA/Earth Science Division funded FRs to be considered for the subsidized rate, please include the name and contact information of a NASA sponsor (NASA HQ Science Concurrence) who has agreed to deem the research to be directly related to a NASA Earth science area of interest as well

as the name and contact information for the Funding Source. For SMD investigators, the sponsor is the Program Manager/Scientist who issued your grant or contract.

Once a Flight Request is approved and scheduled, the user fees must be forwarded to the performing organization(s). In most cases, user fees must be available to the performing center(s) before mission activities, such as integration, can occur. For SMD funded researchers using NASA assets, the fees will normally be withheld from the investigator's budget and sent by the sponsor directly to the NASA aircraft or instrument organization. For researchers using non-NASA assets, the fee payment process will vary and the Airborne Science business managers at each center are prepared to assist the investigator with the financial procedures.

Integration and Mission Peculiar Costs

In addition to user fees, integration costs (aircraft and instrument dependent) and Mission Peculiar Costs (MPCs) may be applied to the FR budget by the aircraft manager. Detailed information on MPCs, including satellite communication (SATCOM) MPC's, along with integration costs is located in Appendix B. All relevant MPCs should be discussed with the aircraft manager.

ROSES, EOS and Multi-Aircraft Missions

Anyone, including ESD funded investigators with approved or pending proposals from Research Opportunities in Space and Earth Sciences (ROSES) announcements, with a requirement for an Airborne Science Program (ASP) core aircraft, facility instrument, and/or science support asset **is required to submit a Flight Request**. The Flight Request is also the method to acquire a cost estimate for inclusion in proposals, but is not a substitute for a proposal. FR and user fee information for Earth Observing System (EOS) Investigators can be found in Appendix C. Please note, for investigators proposing to participate on large, multi-aircraft experiments, such as the ROSES Call 2015: KORUS-AQ (Korea US- Air Quality), a single Flight Request will be submitted for each mission by the Project Manager or Project Scientist.

ASP Supported and Other NASA Aircraft

The Airborne Science Program continues to support an inventory of unique highly modified "science-ready" platforms, as well as coordinate access to other NASA aircraft. See Appendix D for the list of current flight hour costs and https://airbornescience.nasa.gov/aircraft for a detailed list of available aircraft.

Federal and Commercial Aircraft

NASA instrumentation may fly on non-NASA Federal aircraft as well as academic and commercial platforms for which agreements for access by SMD investigators are in place, in process, or have recently been approved by NASA Aviation Management as airworthy and safe to operate. For non-NASA aircraft, proposals need to include costs associated with NASA safety reviews, which may include travel to off site facilities. Investigators are responsible for contacting the relevant parties to determine if the platform meets the requirements of the proposed scientific investigation.

As reference, the ASP website includes Commercial Aircraft recently used by NASA for science research. NASA does not endorse any commercial product or organization, and other comparable systems may exist within the industry. NASA is not responsible for maintaining or verifying the accuracy of data on non-NASA web sites. Before any actual data collection flights utilizing NASA personnel, property or funds, all vendors are subject to airworthiness/flight safety reviews in accordance with NASA Aviation Safety Policy for Non-NASA Aircraft.

Facility Instruments

Several remote sensing systems are considered as NASA facility instruments, in part because they support multiple science disciplines, and a variety of NASA science objectives. They are supported by managers in the ESD Research and Analysis program, and/or the EOS Project Science Office, and are made available to the wider NASA science community via the Flight Request process. When using a facility instrument, an operations support team may or may not be required to deploy with the instrument. User Fees for the instrument team and data processing costs may be required in addition to aircraft Mission Peculiar Costs (MPC) and flight hour costs. Approval for use of a facility Instrument is granted by the sponsoring science Program Manager/Scientist. Appendix E shows available facility instruments with POC info. Appendix G lists Program Managers.

IMPORTANT: AVIRIS-Classic, eMAS, MASTER and UAVSAR investigators are requested to submit FY16 Flight Requests before September 30, 2015, to allow the ASP Program Managers, instrument teams and NASA Headquarters to plan appropriately for the upcoming flight season. Any Flight Requests received after September 30, 2015 may still be approved, but will be accommodated on a "best efforts" basis for FY16 or may be scheduled the following year.

The Flight Request process is managed by the Earth Science Project Office (ESPO) at Ames Research Center. If you did not receive this message directly and would like to be included in further distributions, or if you have any questions regarding the Flight Request System or process please see the ASP Flight Request Procedures document and/or contact: Steven Todorov at: steven.m.todorov@nasa.gov or at 650-604-1296.

Questions regarding the Airborne Science Program can be addressed to:

Bruce Tagg	or	Randy Albertson
Program Director		Deputy Program Director
bruce.a.tagg@nasa.gov		Randal.T.Albertson@nasa.gov
Tel: 202-358-2890		Tel: 661-276-7540

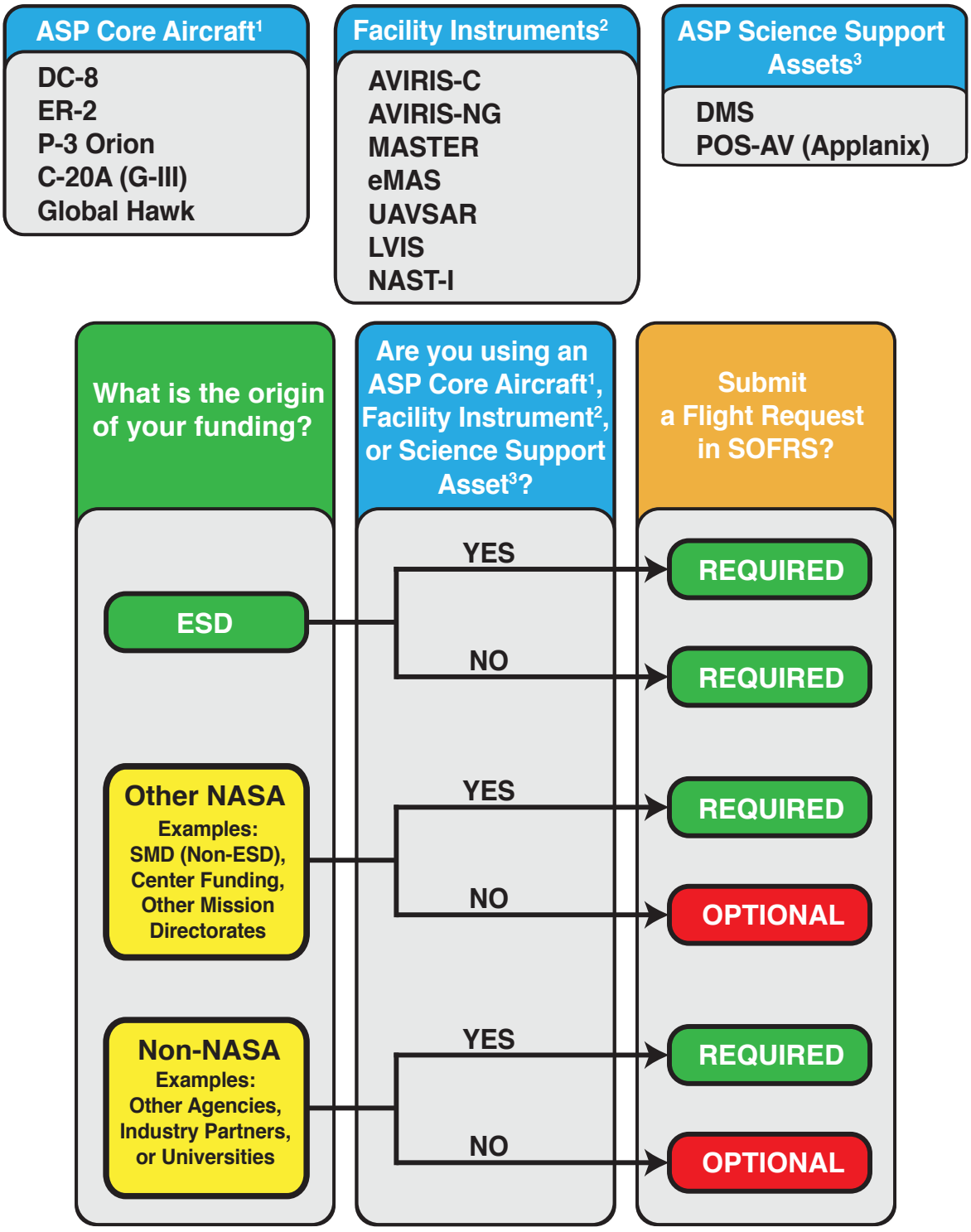
Please submit your completed FY16 Flight Requests as soon in your planning process as possible.

Sincerely,

Bruce Tagg
Director, Airborne Science Program
Science Mission Directorate

Appendix A

Decision Tree for Filing a Flight Request in SOFRS



Appendix B
Budgeting for an Airborne Science Mission

Airborne Science Mission Costs

In addition to the usage -based flight hour costs (personnel, fuel, and aircraft operations), additional MPCs, Sat Com and integration fees may be included by the aircraft lead. Please discuss the applicability of any relevant costs (integration, MPC, SATCOM) with the aircraft lead.

Integration

If an instrument has not yet flown on an aircraft or the instrument(s) require(s) significant effort to integrate into the aircraft, "integration fees" will be assessed.

Mission Peculiar Costs

MPCs include general deployment costs, overtime and personnel augmentation costs, aircraft support costs, and possibly satellite communication costs (depending on the aircraft, bandwidth required, and/or the deployment location). Mission Peculiar Costs are generally applied to a Flight Request when flights originate or terminate away from an aircraft's home base of operations, but may be applicable even at the aircraft's home base.

Satellite Communication (SATCOM) Costs

Satellite communications systems of various types are now installed on most of the core science platforms. The tools referenced below are provided to assist in the development of requirements and for general SATCOM cost reference. After reviewing the SATCOM Requirements and Costing pages, in the PI Support section of the ASP home page investigators should contact the relevant SATCOM lead for a mission specific consultation and final estimate.

Iridium sat-phone modems, with data rates up to 9.6Kb/sec, are standard equipment on the Global Hawk, DC-8, ER-2, C-130 and P-3 aircraft. These are included in the new NASDAT (NASA Airborne Science Data and Telemetry system) navigation data recorders which were deployed in CY2015. Payload use of the Iridium service through the NASDATs is available globally and is provided as part of the flight hour cost of the platform. INMARSAT BGAN (Broadband Global Area Network) airborne sat-com terminals supporting up to 432Kb/sec duplex data rates, are installed on the DC-8, the P-3, and both ER-2s. An INMARSAT Requirements document and preliminary estimating worksheet may be found at:
https://airbornescience.nasa.gov/content/INMARSAT_Requirements_and_Estimating_Sheet

The Global Hawk UAS and WB-57F include a Ku-band sat-com system (data rates in excess of 1Mb/sec) as standard mission equipment. Use of either BGAN or Ku systems are quoted as a SATCOM Cost to the Investigator in the FR. It should be noted that, unlike the Iridium modems, BGAN and Ku-Band service degrades rapidly at latitudes above ~60 degrees. Ku contracts are month long and vary based on coverage location and the current contract pricing. Sample Ku costs by region can be found at:
https://airbornescience.nasa.gov/content/SATCOM_Requirements_and_Costing

Appendix C
SPECIAL ADDENDUM FOR EOS INVESTIGATORS PLANNING FOR NASA'S FY 2016 SCIENCE MISSION DIRECTORATE AIRBORNE SCIENCE PROGRAM

July 14, 2015

Introduction

This addendum contains specific guidance for Earth Observing System (EOS) Investigators in responding to the ASP Annual Call Letter.

EOS investigators have responsibility for instrument support and maintenance, and each investigator should plan on paying the cost of aircraft operations. It must be recognized that there are many demands for aircraft support of other NASA satellite missions, the NASA Science Programs, and other users. Hence, it is not likely that all of the proposed aircraft missions can be accomplished. It is incumbent upon all investigators to plan carefully and combine missions with other investigators whenever possible.

Flight Request

NASA is making the Annual Call Letter for the development of the FY 2016 Earth Science Division (ESD) Airborne Science Program plan available electronically at https://airbornescience.nasa.gov. Flight Requests should be submitted at https://airbornescience.nasa.gov/sofrs/.

EOS Team Members and Instrument Investigators should enter the following in the "Funding Agency Sponsor" box of the Flight Request form:

Dr. Steven Platnick
EOS Senior Project Scientist
NASA/Goddard Space Flight Center
Mail Stop 610
Greenbelt, MD 20771
Phone: 301-614-5636
FAX: 301-614-5620
Internet: Steven.Platnick@nasa.gov

Similarly, Interdisciplinary Investigators should enter the following in the box:

(Discipline Manager)
Earth Science Division
Science Mission Directorate
NASA Headquarters
300 E St. SW
Washington, DC 20546

The EOS review of Flight Requests and setting of priorities will be accomplished by the EOS Senior Project Scientist and the Associate Director for Research for the Earth Science Division. To enable the most equitable allocation of available resources, you are asked to send a copy of your Flight Request to the Team Leader or Principal Investigator of your science team who will be called upon to help prioritize multiple requests from a single investigation team.

In FY 2016, as in previous years, aircraft flight hour costs have been instituted by the SMD Airborne Science Program (see Appendix AD). Flight hour fees will be withheld automatically from each EOS investigator's budget and transferred directly to the appropriate flight account at Armstrong, Wallops, Johnson, Langley, Glenn or appropriate contract for cooperative aircraft. However, the EOS Project Science Office will consider supporting up to 50% of EOS flight hour costs from a Special Aircraft Support Fund, subject to scientific priorities, programmatic balance, and availability of funds in FY 2016 with the remaining 50% or more coming from the individual investigator budgets. Depending upon the number and scope of the Flight Requests, the Special Aircraft Support Fund will also be used to pay Mission Peculiar Costs (MPC) in their entirety. The total amount available for both flight fees and MPC will be up to $300K in FY 2016.

In addition to flight hour costs, certain instrument operation and data production costs ("data fees") have been instituted by the Science Mission Directorate. Data fees, if any, are the responsibility of each individual investigator and will not be subsidized by the Special Aircraft Support Fund in FY 2016. In some cases, investigators may be able to avoid overhead charges by their home institutions by having the government transfer data fees directly from their accounts to the appropriate data account at a NASA Center. An investigator should contact the appropriate Resource Analyst or Contracting Officer to make such arrangements. Data from many instruments, e.g., photography on most aircraft, are available at no cost or only nominal cost for approved flights.

Scheduling and final flight year approvals are the responsibility of:

Bruce Tagg
Director, Airborne Science Program
Earth Science Division
Science Mission Directorate
NASA Headquarters
300 E St. SW; Mail Suite: 3N71
Washington, DC 20546
Phone: 202-358-2890
Email: bruce.a.tagg@nasa.gov

Appendix D
Available NASA Airborne Science Platforms

Below are the platforms currently available, Points Of Contact (POC), and associated user's fees (on a per hour basis unless otherwise noted). The listed rates are for the aircraft from its home base only and do not include Mission Peculiar Costs (MPC) for a given campaign or deployment. In the event that the cost of fuel significantly exceeds current rates, this additional cost will be included in the MPC. Also included in MPCs are overtime and/or personnel augmentation if required and/or used.

NASA ASP -Supported Aircraft and Other NASA Aircraft are listed below. Commercial Aircraft recently used by NASA Science can be found at http://airbornescience.nasa.gov/aircraft.

Facility	Center/ State	Contact Name	Contact Phone	NASA SMD User Fee (per flight hour)
NASA ASP-Supported Aircraft				
DC-8	AFRC, CA	Tim Moes	(661) 276-3054	$6500
ER-2	AFRC, CA	Brian Hobbs Franzeska Becker	(661) 276-2557 (661) 276-7602	$3500
P-3	WFF, VA	Mike Cropper	(757) 824-2140	$3500
C-20A (G-III) AFRC	AFRC, CA	John McGrath	(661) 276-2588	$3000 (full reimbursable rate $6000)
Global Hawk	AFRC, CA	Frank Cutler	(661) 276.3998	$60K/week or $250K/month for access $1800/Flt hour up to 150hrs/month
Other NASA Aircraft				
B-200 AFRC	AFRC, CA	Frank Batteas	(661) 276-3786	Call
B-200 LARC	LaRC, VA	Bruce Fisher	(757) 864-3862	Call
B-200/UC-12B	LaRC, VA	Bruce Fisher	(757) 864-3862	Call
B-200 WFF	WFF, VA	Mike Cropper	(757) 824-2140	Call
Cessna 206	LaRC, VA	Bruce Fisher	(757) 864-3862	Call
Dragon Eye	ARC, CA	Matthew Fladeland	(650) 604-3325	Call
G-III	JSC, TX	Derek Rutovic Jim Alexander	(281) 244-9871 (281) 244-9870	Call
Learjet 25	GRC, OH	Al Micklewright Anthony Royce	(216) 433-2036 (216) 433-3868	Call
HU-25C Falcon	LaRC, VA	Bruce Fisher	(757) 864-3862	Call
C-23 Sherpa	WFF, VA	Mike Cropper	(757) 824-2140	Call
C-130 Hercules	WFF, VA	Mike Cropper	(757) 824-2140	Call
Twin Otter GRC (DHC-6)	GRC, OH	Al Micklewright Anthony Royce	(216) 433-2036 (216) 433-3868	Call

Facility	Center/ State	Contact Name	Contact Phone	NASA SMD User Fee (per flight hour)
Other NASA Aircraft (Cont.)				
S-3B	GRC, OH	Al Micklewright Anthony Royce	(216) 433-2036 (216) 433-3868	Call
T-34C	GRC, OH	Al Micklewright Anthony Royce	(216) 433-2036 (216) 433-3868	Call
WB-57F	JSC, TX	Charlie Mallini Tim Propp	(281) 483-3463 (281) 483-0882	Call
Ikhana	AFRC, CA	Mauricio Rivas	(661) 276-3678	Call
SIERRA	ARC, CA	Paul Espinosa	(650) 604-3150	Call
UH-1 Huey Helicopter	WFF, VA	Mike Cropper	(757) 824-2140	Call

Appendix E
NASA Facility Instruments and Science Support Assets

Several remote sensing systems are considered as NASA facility instruments, in part because they support multiple science disciplines, and a variety of NASA science objectives. They are supported by managers in the ESD Research and Analysis program, and/or the EOS Project Science Office, and are made available to the wider NASA science community via the Flight Request process. In most cases, instrument operating and data processing costs are recovered from the requesting individual or their sponsors.

Facility Instruments	Contact	Telephone
AVIRIS-C[1] Airborne Visible Infrared Imaging Spectrometer – Classic	Robert Green	818-354-9136
AVIRIS-NG[1] Airborne Visible Infrared Imaging Spectrometer – Next Generation	Robert Green	818-354-9136
eMAS, Enhanced MODIS Airborne Simulator	Jeff Myers	650-604-3598
MASTER MODIS-ASTER Simulator	Jeff Myers	650-604-3598
LVIS, Land, Vegetation, and Ice Sensor (avail. mid-2016)	Bryan Blair	301-614-6741
NAST-I, National Airborne Sounding Testbed-Interferometer	Anna Noe	757-864-6466
UAVSAR[2], UAV Synthetic Aperture Radar	Yunling Lou	818-354-2647
Science Support Assets		
POS-AV, Ames	Jeff Myers	650-604-3598
POS-AV, Wallops Flight Facility	Mike Cropper	757-824-2140
DMS, Digital Mapping System	Jeff Myers	650-604-3598

[1]NASA Instrument Concurrence (NSC) by Woody Turner is required for the use of AVIRIS-C and AVIRIS-NG.
[2]NASA Instrument Concurrence by Craig Dobson is required for the use of UAVSAR.

AVIRIS-C and AVIRIS-NG

JPL operates the AVIRIS-C and AVIRIS-NG Imaging Spectrometers, which are available as NASA facility instruments for scientific research and applications. Investigators will be expected to pay for JPL Imaging Spectrometer data acquisition, calibration, engineering support and processing costs associated with their investigations. If JPL Imaging Spectrometers requirements were approved as part of the original proposal selection, then these costs should already be provided for in your budget or reserved for this purpose at NASA Headquarters. Please contact your Technical Monitor if you have any questions about this. If your JPL Imaging Spectrometer requirements are new and were not in the originally selected proposal, then resources must be found within your existing budget or secured through an augmentation request to your Technical Monitor or Program Manager at NASA Headquarters.

AVIRIS-NG is a new facility instrument that is now available for campaigns on the commercial Twin Otters. AVIRIS-C is currently flying on the NASA ER-2 on a regular basis, as part of the HyspIRI Airborne Preparatory Campaign. The current plan is to fly AVIRIS-C on the ER-2 for cross calibration and inter-comparison with AVIRIS-NG on the Twin Otter. AVIRIS-C can be flown on the

Twin Otter for particular investigations, or AVIRIS-NG can be used for flying higher spectral and spatial sampling collections for Visible to Shortwave IR imaging spectroscopy (380 to 2510 nm). Furthermore, scenes from the AVIRIS-C archive (i.e., data that have already been acquired) can be obtained at a nominal cost and can be located at: http://aviris.jpl.nasa.gov.

MASTER and eMAS

The MODIS/ASTER airborne simulator (MASTER) is currently available for flights aboard the NASA ER-2. It may also be integrated on the DC-8 or the P-3B, although it's expected to fly mainly on the ER-2 in FY16. The enhanced MODIS simulator (eMAS) is scheduled to start flying again on the ER-2 in late 2015, after a series of modifications. Please confirm availability with the instrument lead. The calibration and data processing (Level-1b and geolocation) are supported by the Airborne Sensor Facility at NASA Ames Research Center. Higher-level products are possible in some instances; these are supported separately by the eMAS science POC (Dr. Steven Platnick), the MASTER instrument PI (Dr. Simon Hook), or other research teams and should not be assumed in any Flight Request.

Additional information on eMAS or MASTER can be obtained from: Jeff Myers, (650-604-3598)
Use/Cost Policies: Dr. Steven Platnick (see Appendix C)
Instrument & FY 2016 Schedule: Jeff Myers, Ames Research Center, 650-604-3598

UAVSAR

The Uninhabited Aerial Vehicle Synthetic Aperture Radar (UAVSAR), a high resolution, fully polarimetric, L-band SAR designed for repeat pass InSAR applications, is available as a NASA facility instrument for scientific research and applications. Investigators are expected to pay for UAVSAR data acquisition and processing costs associated with their investigations, unless they were approved as part of the original proposal selection. These costs should already be provided for in your budget or reserved for this purpose at NASA Headquarters. UAVSAR currently flies on the C20-A (G-III) aircraft and has also flown test flights on the Global Hawk. If you are preparing a budget for a NASA proposal, you may estimate the UAVSAR data acquisition costs on the C-20A (G-III) aircraft at http://uavsar.jpl.nasa.gov/cgi-bin/fps. If you already have approved flight hours, you may use this website to finalize your flight plans as well. NASA data acquired by UAVSAR are processed at JPL and archived for distribution at the Alaska Satellite Facility (http://www.asf.alaska.edu/), where you may download the processed data products at no charge. For more information about UAVSAR, visit http://uavsar.jpl.nasa.gov. JPL's Earth Science Airborne Suborbital Instruments and Measurements website can be found at http://airbornescience.jpl.nasa.gov.

NAST-I

The National Airborne Sounding Testbed-Interferometer (NAST-I) is a high spectral resolution (0.25cm- 1) and high spatial resolution (0.13 km linear resolution per km of aircraft flight altitude, at nadir) scanning (2.3 km ground cross-track swath width per km of aircraft flight altitude) interferometer sounding system that was developed to be flown on high-altitude aircraft to provide experimental observations needed to finalize the specifications and to test proposed designs and data processing algorithms for the Cross-track Infrared Sounder (CrIS) to fly on the National Polar-orbiting Operational Environmental Satellite System (NPOESS). Because the NAST-I temperature and humidity soundings have an unprecedented spatial resolution, the data

are being used to support a variety of atmospheric research programs. The NAST-I covers a spectral range from ~ 600-2900 cm-1 (3.5-16 microns) with 0.25 cm-1 spectral resolution, yielding more than 9000 spectral channels of radiance emission information. The NAST-I passive infrared (IR) Michelson interferometer is usually flown with the NAST passive microwave sounding instrument (NAST-M) to provide an all-weather sounding capability. The NAST-I and NAST-M instruments fly on the ER-2.

LVIS

LVIS Facility - (available as early as mid-2016)

The Land, Vegetation, and Ice Sensor (LVIS) is an airborne, full-waveform, scanning laser altimeter, designed and developed at NASA's Goddard Space Flight Center (GSFC). By combining precise GPS, attitude sensor data, and the range and return waveforms, LVIS produces large area maps of surface topography, and any vertical height and structure. The facility version of the sensor is estimated to become available for planning in mid/late 2016. Interested users are encouraged to contact Bryan Blair (James.B.Blair@nasa.gov, 301-614-6741) (alternate contact: David Rabine David.L.Rabine@nasa.gov, 301-614-6771)) for further details of the facility capabilities with respect to data requirements. Standard data products include: Level1b - the geolocated return laser waveform and Level2 - elevation and height products extracted from the Level1b waveform using standard algorithms. The decimeter-accurate topography maps and precisely geolocated return waveforms produced by LVIS provide Earth scientists with a unique data set for studies such as topography, hydrology, land ice, sea ice, biodiversity, and ecology.

POS AV

POS AV (Postion and Orientation Systems) are standalone precision navigation systems specifically designed for direct georeferencing of airborne sensor data. By integrating precision GPS with inertial measurement technology, POS AV provides high-resolution aircraft attitude and position data for use by Lidars, imaging systems, and air sampling instruments. (Use fees apply.)

DMS

The Digital Mapping System (DMS) is a 22 megapixel digital camera that acquires high resolution natural color or panchromatic aerial imagery. Data acquired by DMS are used by a variety of scientific programs to monitor variation in environmental conditions, assess global change, and respond to natural disasters. Geo-referenced image products may be generated, when used in conjunction with a POS-AV system.

Appendix F
NASA Program Managers/Scientists

This table of NASA Program Managers/Scientists is provided for information only, as a service to investigators.

Name	Organization	Area of Responsibility
SCIENCE		
David Considine	NASA - SMD	Modeling Analysis and Prediction
Paula Bontempi	NASA - SMD	Carbon Cycle and Ecosystems- Ocean Biology and Biogeochemistry
Craig Dobson	NASA - SMD	Geodetic Imaging Program
Kathy Hibbard Eric Kasischke	NASA - SMD	Terrestrial Ecology Program
Jared Entin	NASA - SMD	Hydrology Program
Garik Gutman	NASA - SMD	Land Use-Land Cover
Ken Jucks	NASA - SMD	Upper Atmosphere Research Program
Ramesh Kakar	NASA - SMD	Atmospheric Dynamics and Precipitation Program
Ben Phillips	NASA - SMD	Earth Surface Interior
Jeff Grossman	NASA - SMD	Astro-Materials Curation
Eric Lindstrom	NASA - SMD	Oceanography
Hal Maring	NASA - SMD	Radiation Science Program
Barry Lefer	NASA - SMD	Tropospheric Composition
Tom Wagner	NASA - SMD	Cryosphere and International Polar Year
Bruce Tagg	NASA - SMD	Airborne Science Program
Woody Turner	NASA - SMD	Biological Diversity
ESTO		
Parminder Ghuman	NASA - GSFC	Earth Science Technology Office (IIP)
Pam Millar	NASA - GSFC	Earth Science Technology Office (AITT)
Mike Little	NASA - LARC	Earth Science Technology Office (AIST)
Joe Famiglietti	NASA - GSFC	Earth Science Technology Office (ACT)
SATELLITES		
Steve Platnick	NASA - GSFC	EOS Project Science Office
Jeff Masek	NASA - GSFC	Landsat Program
APPLIED SCIENCE		
Lawrence Friedl	NASA - SMD	Applied Science Program
Frank Lindsay	NASA - SMD	Disaster Management
Lucien Cox	NASA - SMD	Applied Science